



Chlordane in Soil

Chlordane was one of the most common pesticides applied to the soil around homes and businesses throughout the United States for protection against termites. Because of its ability to concentrate in fish, bird and mammal tissue, the pesticide was banned by the United States Environmental Protection Agency (USEPA) in 1988. This fact sheet discusses how the Navy handles soil that contains chlordane, its potential health effects, and ways to lessen your family's exposure if you suspect chlordane is present in the soil around your home.

What happens to chlordane when it gets into the environment?

Chlordane sticks strongly to soil particles and can remain in the ground for over 20 years.

Most chlordane:

- Escapes soil through evaporation,
- Is not likely to enter groundwater, and
- Can concentrate in fish, bird, and mammal tissue.

How can people be exposed to chlordane in soil?

- Incidental ingestion – we all eat small amounts of dirt unintentionally on the food we eat or that gets on our hands or in our mouths throughout the day.
- Inhaling soil particles.
- Touching the soil

How much chlordane in soil is safe?

Federal regulations do not specify the quantity of chlordane allowed in soil where the pesticide was legally applied. Chlordane at Navy and Marine Corps housing constructed prior to 1988 resulted from termite treatment operations. Soils surrounding these housing units typically have relatively low levels of chlordane, similar to non-military homes across the country. The Navy, like civilian property

owners, does not routinely test the soil around our homes.

What are the potential health effects from exposure to chlordane?

The health effects from exposure to chlordane depend on how much a person is exposed to and for how long. **People live safely around soil with low levels of chlordane. Your home is safe.**

The chlordane that may be in the soil around your home is not a health concern for several reasons. The levels of chlordane in soil are low in housing areas. The chlordane is generally below the surface and covered by grass and other plants which cut down on the amount of bare soil that your family is exposed to. In addition, most service members live in many different housing units during their time in the military. Therefore, our military families spend a relatively short amount of time in each home. Health effects typically become a concern with higher exposure levels over longer periods of time.





Most health effects result from relatively high exposures to chlordane by people who worked with the product as part of their job. These high exposures can cause adverse effects to the nervous system, digestive tract, and the liver. People who have breathed high concentrations of chlordane vapors or swallowed small amounts of liquid chlordane have suffered from headaches, irritability, confusion, weakness, vision problems, vomiting, stomach cramps, diarrhea, and jaundice. High exposures did not result from the legal application of chlordane at homes and businesses.

It is unknown if chlordane exposure affects the reproductive system or causes birth defects. Animals exposed to high amounts in tests before birth or while nursing later developed behavioral effects.

Does chlordane cause cancer?

At this time, scientists have determined that there is not enough information available to determine if chlordane causes cancer in humans. Studies on people who worked with chlordane, and were much more likely to have high exposures, did not find increased rates of cancer. However, more study is needed.

Reference:

This fact sheet was prepared by the Navy Environmental Health Center (NEHC), which is a part of Navy Medicine. NEHC is a public health resource dedicated to the Navy and Marine Corps. We are committed to keeping our service members and their families healthy through preventive medicine and health promotion activities. One of NEHC's areas of expertise is human health risk assessment.

For More Information:

Contact your local housing office if you have questions about your housing complex. If you have any concerns about exposure to chlordane or potential health effects, please talk to your health care provider.

How can you reduce your family's exposure to chlordane in soil?

Maintain the landscaping around your home to minimize the amount of bare soil. Grass and other plants reduce the amount of dust that can be blown around and the amount of soil you or your children might incidentally eat.

Wash your hands before preparing food or eating.

Wash all fruits and vegetables well before eating them.

